

Examiner Interview Summary and Amendment and Response under 37 C.F.R. 1.116

Applicant: Michael R. Krause et al.
Serial No.: 09/578,019
Filed: May 24, 2000
Docket No.: 10991834-2
Title: RELIABLE MULTICAST

REMARKS

The following remarks are made in response to the Final Office Action mailed February 25, 2005. Claims 2 and 31 have been cancelled without prejudice. Claims 1-53 were rejected. With this Response, claims 1, 3-5, 7, 29, 32-34, and 36 have been amended. Claims 1, 3-30, and 32-53 remain pending in the application and are presented for reconsideration and allowance.

Claim Rejections under 35 U.S.C. § 112

The Examiner rejected claims 1-53 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

The Examiner specifically rejected the “independent reliable transport services” language of independent claims 1 and 29 for not clearly being conveyed in the description.

As referenced in the above Examiner Interview Summary, Examiner England agreed that the specification from page 30, line 22-page 41, line 4 and the corresponding Figures 8-10 describe and support the claim language of “independent reliable transport services” of independent claims 1 and 29. One example passage of the specification which clearly defines each SDR implementing “an independent reliable transport service” is found at page 36, lines 8-13, which states,

Each SDR coupling a source AI to a destination AI within the target multicast group executes independently. Thus, there is no coordination between SDRs in terms of unit of work time stamps/sequence numbers, acknowledgments, and the like. The CS within the source device is responsible for correlating independent SDR transmissions and acknowledgments and generating an appropriate completion event.

In view of the above, claims 1, 3-30, and 32-53 are believed to be in form for allowance. Therefore, Applicants respectfully request that rejections to these claims under 35 U.S.C. § 112, first paragraph, be reconsidered, and the rejections be removed and these claims be allowed.

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Claim Rejections under 35 U.S.C. § 103

The Examiner rejected claims 1-4, 9-11, 15, 16, 22, 29-33, 41, 42, and 46 under 35 U.S.C. § 103(a) as being unpatentable over the Miller et al. U.S. Patent No. 6,151,696 in view of the Nessett et al. U.S. Patent No. 5,968,176 in further view of the Van Loo et al. U.S. Patent No. 6,064,672 in further view of the Ruszczyk U.S. Patent No. 6,205,150.

The Examiner rejected claims 5-8, 18-20, 34-37, and 44 under 35 U.S.C. § 103(a) as being unpatentable over the Miller et al. U.S. Patent No. 6,151,696, the Nessett et al. U.S. Patent No. 5,968,176, the Van Loo et al. U.S. Patent No. 6,064,672, and the Ruszczyk U.S. Patent No. 6,205,150, and in further view of the Block et al. U.S. Patent No. 6,192,417.

The Examiner rejected claims 12 and 38 under 35 U.S.C. § 103(a) as being unpatentable over the Miller et al. U.S. Patent No. 6,151,696, the Nessett et al. U.S. Patent No. 5,968,176, the Van Loo et al. U.S. Patent No. 6,064,672, and the Ruszczyk U.S. Patent No. 6,205,150 in further view of the Hamilton et al. U.S. Patent No. 6,392,993.

The Examiner rejected claims 13, 14, 17, 39, 40, and 43 under 35 U.S.C. § 103(a) as being unpatentable over the Miller et al. U.S. Patent No. 6,151,696, the Nessett et al. U.S. Patent No. 5,968,176, the Van Loo et al. U.S. Patent No. 6,064,672, and the Ruszczyk U.S. Patent No. 6,205,15, and in further view of the Muller et al. U.S. Patent No. 6,256,740.

The Examiner rejected claims 21 and 23 under 35 U.S.C. § 103(a) as being unpatentable over the Miller et al. U.S. Patent No. 6,151,696, the Nessett et al. U.S. Patent No. 5,968,176, the Van Loo et al. U.S. Patent No. 6,064,672, and the Ruszczyk U.S. Patent No. 6,205,150, and in further view of the VanDoren et al. U.S. Patent No. 6,279,084.

The Examiner rejected claims 24, 26, 27, 47, 51, and 52 under 35 U.S.C. § 103(a) as being unpatentable over the Miller et al. U.S. Patent No. 6,151,696, the Nessett et al. U.S. Patent No. 5,968,176, the Van Loo et al. U.S. Patent No. 6,064,672, the Ruszczyk U.S. Patent No. 6,205,150, and the VanDoren et al. U.S. Patent No. 6,279,084, and in further view of the Hamilton U.S. Patent No. 6,392,993.

The Examiner rejected claims 25, 48-50 under 35 U.S.C. § 103(a) as being unpatentable over the Miller et al. U.S. Patent No. 6,151,696, the Nessett et al. U.S. Patent No. 5,968,176, the Van Loo et al. U.S. Patent No. 6,064,672, the Ruszczyk U.S. Patent No. 6,205,150, the VanDoren et al. U.S. Patent No. 6,279,084, the Hamilton U.S. Patent No. 6,392,993, and in further view of the Miller U.S. Patent No. 5,553,083.

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The Examiner rejected claims 28 and 53 under 35 U.S.C. § 103(a) as being unpatentable over the Miller et al. U.S. Patent No. 6,151,696, the Nessett et al. U.S. Patent No. 5,968,176, the Van Loo et al. U.S. Patent No. 6,064,672, and the Ruszczyk U.S. Patent No. 6,205,150, and in further view of the Mallory U.S. Patent No. 6,335,933.

The Examiner rejected claim 45 under 35 U.S.C. § 103(a) as being unpatentable over the Miller et al. U.S. Patent No. 6,151,696, the Nessett et al. U.S. Patent No. 5,968,176, the Van Loo et al. U.S. Patent No. 6,064,672, and the Block U.S. Patent No. 6,192,417 in further view of the VanDoren et al. U.S. Patent No. 6,279,084.

Applicants have amended independent claim 1 to include the original limitations of dependent claim 2 wherein the communication services (CS) in the source device verifies that a predetermined percentage of destination AIs in the multicast group reliably receives each unit in the first unit of work stream.

Applicants have also amended independent claim 29 to include the original limitations of dependent claim 31 of verifying that a predetermined percentage of destination devices in the multicast group reliably has received each unit in the first unit of work stream.

Amended independent claims 1 and 29, as clarified, include limitations which are not taught or suggested by the cited references alone or in combination.

The cited references do not teach or suggest the data processing system of independent claim 1, which includes the following limitations. Multiple SDRs, where each SDR implements an independent reliable transport service between the source device and a corresponding one of the multiple destination devices in the multicast group for delivery of the first unit of work stream at the corresponding one of the multiple destination devices and guarantees strong ordering of the first unit of work stream received at the corresponding one of the multiple destination devices. Each SDR includes first SDR resources at the source device having at least one queue configured to hold transmitted but not acknowledged units of work and not yet transmitted units of work. Each SDR further includes second SDR resources at the corresponding one of the multiple destination devices having state information including an expected next sequence number value indicating an expected defined order corresponding to a next unit of work to be received. CS in the source device verifies that a predetermined percentage of destination AIs in the multicast group reliably receives each unit in the first unit of work stream.

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The cited references do not teach or suggest the method of amended independent claim 29 which includes the following limitations. Establishing multiple SDRs, each SDR including first SDR resources at the source device having at least one queue for holding transmitted but not acknowledged units of work and not yet transmitted units of work. Each SDR further includes second SDR resources at a corresponding one of multiple destination devices participating in the multicast group having state information including an expected next sequence number value indicating an expected defined order corresponding to a next unit of work to be received. Implementing corresponding multiple independent reliable transport services with the multiple SDRs. Each independent reliable transport service being implemented between the source device and the corresponding one of multiple destination devices. Multicasting the reproduced first unit of work stream with the multiple independent reliable transport services. Guaranteeing strong ordering of the first unit of work stream received at the corresponding one of multiple destination devices. Verifying that a predetermined percentage of destination devices in the multicast group reliably has received each unit in the first unit of work stream.

In view of the above, independent claims 1 and 29 are not taught or suggested by the cited references. In addition, dependent claims 3-28 are allowable as depending from an allowable base claim (claim 1) and are allowable on further independent grounds in view of the novel and nonobvious features and combinations set forth therein. Dependent claims 30 and 32-53 are allowable as depending from an allowable base claim (claim 29) and are allowable on further independent grounds in view of the novel and nonobvious features and combinations set forth therein.

Therefore, Applicants respectfully request reconsideration and withdrawal of the 35 U.S.C. § 103(a) rejections to claims 1, 3-30, and 32-53, and request allowance of these claims.

CONCLUSION

In view of the above, Applicant respectfully submits that pending claims 1, 3-30, and 32-53 are in form for allowance and are not taught or suggested by the cited references. Therefore, reconsideration and withdrawal of the rejections and allowance of claims 1, 3-30, and 32-53 is respectfully requested.

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No fees are required under 37 C.F.R. 1.16(b)(c). However, if such fees are required, the Patent Office is hereby authorized to charge Deposit Account No. 08-2025.

The Examiner is invited to contact the Applicant's representative at the below-listed telephone numbers to facilitate prosecution of this application.

Any inquiry regarding this Amendment and Response should be directed to either Patrick G. Billig at Telephone No. (612) 573-2003, Facsimile No. (612) 573-2005 or William P. O'Meara at Telephone No. (970) 898-7917, Facsimile No. (970) 898-7247. In addition, all correspondence should continue to be directed to the following address::

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Respectfully submitted,

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CERTIFICATE UNDER 37 C.F.R. 1.8: The undersigned hereby certifies that this paper or papers, as described herein, are being deposited in the United States Postal Service, as first class mail, in an envelope address to: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 25 day of April, 2005.

By 
Name: Patrick G. Billig